STEP Reimagine productivity

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STEP ADTECH

STEP&ADTECH Robotics

Model Selection Guide

About STEP

Founded in 1995, Shanghai STEP Electric Co., Ltd. is a national key high-tech and innovation-driven enterprise in China. The company was listed on the Shenzhen Stock Exchange A-share market in 2010 (Stock Name: STEP; Stock Code: 002527).

STEP's core competitiveness lies in its motion control technology. The company specializes in smart elevators, servo drives, variable frequency drives (VFDs), industrial robots, and industrial controllers. With a strong commitment to digitalization and intelligent manufacturing, STEP delivers high-quality, end-to-end smart manufacturing solutions to global customers.

STEP's products and solutions are widely deployed across diverse industries, including elevators, smart water management, HVAC, rubber and plastics, port cranes, shipbuilding, mining, logistics, construction machinery, energy efficiency systems, 3C electronics, lithium batteries, semiconductors, photovoltaics, food and beverage, healthcare, automotive manufacturing, dispensing systems, laser processing, machine tools, metal fabrication, chemical processing, furniture manufacturing, and steel structures. Today, STEP serves customers in over 110 countries and regions worldwide.

In June 2025, Haier Group made a strategic investment in Shanghai STEP Electric Co., Ltd. Following this investment, STEP officially became a member of the Haier COSMOPlat Industrial Internet Ecosystem, further strengthening its capabilities in industrial digitalization and intelligent manufacturing.

Industrial Robot Business

Autonomous • Safe • Reliable | A Full-System, Forward-Looking Robot Manufacturer

In the industrial robotics sector, STEP focuses on multi-joint robots and SCARA robots, marketed under the "STEP" and "ATECH" brands respectively. With motion control technology at its core, STEP has achieved approximately 2% market share in China, establishing itself as a leading domestic industrial robot manufacturer.

STEP's industrial robot portfolio covers payloads ranging from 1 kg to 600 kg. The company has independently mastered key core technologies, including robot control systems, software platforms, and motion algorithms. Beyond robot hardware, STEP provides complete robot systems and integration solutions, enabling manufacturers to enhance productivity, quality, and intelligent automation capabilities.

As a national innovative high-tech enterprise, STEP is an active member of the National Robot Standardization Working Group, contributing to the development of China's industrial robot standards and ecosystem. STEP's Robotics Superfactory has been recognized as one of Shanghai's first 20 Intelligent Manufacturing Factories and has been awarded the title of Intelligent Manufacturing Demonstration Unit by the Ministry of Industry and Information Technology of the People's Republic of China.

50,000+ Cumulative shipments (units)

20,000+ Annual plant capacity (units)

1-600kg Load Range

90 %+ Rate of technological autonomy

100+ models

30 % Beat Speed Increase

Honours & Qualifications

STEP Robotics integrates the strengths of STEP (Shanghai STEP Robotics Co., Ltd.) and ADTECH (Shenzhen ADTECH Co., Ltd.), two established domestic robotics brands, leveraging deep expertise in core robotics technologies and system-level solutions.

As a group of national high-tech and innovation-driven enterprises, STEP Robotics operates under a robust quality and innovation framework. The company is ISO 9001 certified, holds 300+ patents and software copyrights, and actively contributes to the development of national and industry standards in industrial automation.

Backed by authoritative certifications across key performance indicators, STEP Robotics delivers high-quality industrial robots and complete automation solutions, earning broad recognition from customers worldwide as well as government authorities, industry bodies, and professional associations.

ISO 13849 Product certification
ISO 10218 Product certification
ISO 12100 Product certification
CE-EMC Product certification
CE-LVD Product certification
CLASS 2 Product certification
CE Product certification
SEMI S2 Product certification
TILVA Product certification
ETL Product certification
ISO9001 Product certification
CR Product certification

170+ Technology patents
50+ Patents for inventions
90+ Software publications
7+ National standard
3+ Industry standard
30+ Honours and Awards

STEP ROBOTICS

Industrial Robot Body
Industrial Robot Vision System
Motion Control System
Industrial Automation Solutions

CONTENTS

Industrial Robot

SCARA Robot

Vertical Multi-joint Robot - Quick Selection Table

SA Welding Robot Series

Model		SA6/1400	SA6/1440H	SA12/1490H	SA10/2000H	SA12/2000H
						
Construction		Vertical multi-joint (Hollow arm)	Vertical multi-joint (Hollow arm)	Vertical multi-joint (Hollow arm)	Vertical multi-joint (Hollow arm)	Vertical multi-joint (Hollow arm)
Number of joints		6	6	6	6	6
Drive mode		AC driven	AC driven	AC driven	AC driven	AC driven
Maximum working radius		1405mm	1475mm	1498.5mm	2010mm	2012.5mm
Repeatability of positioning		±0.05mm	±0.05mm	±0.03mm	±0.05mm	±0.03mm
Maximum wrist load		6kg	6kg	12kg	10kg	12kg
Weight of body		143kg	165kg	210kg	210kg	210kg
IP rating		IP40	IP54	IP54 (main body) IP67 (wrist)	IP54	IP54 (main body) IP67 (wrist)
Maximum operating speed	J1	170°/s	260°/s	260°/s	160°/s	190°/s
	J2	170°/s	240°/s	240°/s	160°/s	190°/s
	J3	200°/s	260°/s	260°/s	169°/s	220°/s
	J4	450°/s	470°/s	430°/s	300°/s	430°/s
	J5	320°/s	396°/s	450°/s	338°/s	450°/s
	J6	520°/s	720°/s	720°/s	535°/s	720°/s
Maximum motion range	J1	±165°	±165°	±170°	±165°	±165°
	J2	+155°~-90°	+155°~-90°	+163~-80°	+163~-80°	+163~-80°
	J3	+70°~-200°	Material handling: +78°~-165° Welding: +78°~-90°	Material handling: +80°~-193° Welding: +80°~-80°	Material handling: +80°~-165° Welding: +80°~-80°	Material handling: +80°~-193° Welding: +80°~-80°
	J4	±170°	±190°	±190°	±190°	±190°
	J5	±120°	±130°	Material handling: ±180° Welding: ±130°	±130°	Material handling: ±180° Welding: ±130°
	J6	±360°	Material handling: ±360° Welding: ±220°	Material handling: ±450° Welding: ±220°	Material handling: ±360° Welding: ±220°	Material handling: ±450° Welding: ±220°
Allowable load torque of joint	J4	11.8N·m	11.8N·m	16.1N·m	11.8N·m	16.1N·m
	J5	9.8N·m	9.8N·m	16.1N·m	9.8N·m	16.1N·m
	J6	5.9N·m	4.2N·m	5.9N·m	4.2N·m	5.9N·m
Allowable load inertia of joint	J4	0.6kg·m²	0.6kg·m²	0.63kg·m²	0.6kg·m²	0.63kg·m²
	J5	0.25kg·m²	0.25kg·m²	0.63kg·m²	0.25kg·m²	0.63kg·m²
	J6	0.06kg·m²	0.06kg·m²	0.061kg·m²	0.06kg·m²	0.061kg·m²
Air hose configuration		None	1-Φ6mm 1-Φ8mm	1-Φ6mm 1-Φ8mm	1-Φ6mm 1-Φ8mm	1-Φ6mm 1-Φ8mm
Body integrated signal cable		None	16 cores			
Installation method		Floor mounting, wall mounting, Inverted mounting				
Operating environment	Ambient temperature	0~45℃				
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation				
	Vibration requirements	Below 0.5G (4.9m/s²)				
Noise level		≤80dB（A）				
Application		Welding, material handling, machine tending, assembly				

SP Palletizing Robot Series

Model		SP120/2400	SP180/3200
			
Construction		Vertical multi-joint	Vertical multi-joint
Number of joints		4	4
Drive mode		AC driven	AC driven
Maximum working radius		2403mm	3155mm
Repeatability of positioning		±0.05mm	±0.05mm
Maximum wrist load		120kg	180kg
Weight of body		1045kg	1120kg
IP rating		IP54	IP54
Maximum operating speed	J1	145°/s	125°/s
	J2	110°/s	110°/s
	J3	120°/s	120°/s
	J4	300°/s	300°/s
	J5	/	/
	J6	/	/
Maximum motion range	J1	±180°	±180°
	J2	+85°~-40°	+85°~-40°
	J3	+65°~-65°	+62°~-64°
	J4	±360°	±360°
	J5	/	/
	J6	/	/
Allowable load torque of joint	J4	/	/
	J5	/	/
	J6	/	/
Allowable load inertia of joint	J4	54Kg·m²	87Kg·m²
	J5	/	/
	J6	/	/
Air hose configuration		2-Φ12mm	2-Φ12mm
Body integrated signal cable		16 cores	
Installation method		Floor mounting	
Operating environment	Ambient temperature	0~45℃	
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation	
	Vibration requirements	Below 0.5G (4.9m/s²)	
Noise level		≤80dB（A）	
Application		Material handling, palletizing	

Vertical Multi-joint Robot - Quick Selection Table

SR Series of Universal Robots (Handling, loading and unloading, bending robots...)

Model		SR8/1400	SR10/2000	SR12/1400	SR20/1700	SR25/1720
						
Construction		Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint
Number of joints		6	6	6	6	6
Drive mode		AC driven	AC driven	AC driven	AC driven	AC driven
Maximum working radius		1405mm	2010mm	1460mm	1718mm	1718mm
Repeatability of positioning		±0.05mm	±0.05mm	±0.05mm	±0.05mm	±0.05mm
Maximum wrist load		8kg	10kg	12kg	20kg	25kg
Weight of body		143kg	241kg	160kg	235kg	240kg
IP rating		IP40 (main body) / IP54 (wrist)				
Maximum operating speed	J1	170°/s	186°/s	170°/s	225°/s	210°/s
	J2	170°/s	185°/s	170°/s	185°/s	206°/s
	J3	160°/s	180°/s	200°/s	180°/s	238°/s
	J4	360°/s	360°/s	400°/s	400°/s	460°/s
	J5	320°/s	360°/s	360°/s	360°/s	412°/s
	J6	450°/s	300°/s	600°/s	600°/s	360°/s
Maximum motion range	J1	±165°	±165°	±165°	±165°	±180°
	J2	+155°~-90°	+160°~-78°	+155°~-90°	+155°~-90°	+160°~-78°
	J3	+70°~-200°	+80°~-190°	+78°~-165°	+75°~-200°	+80°~-190°
	J4	±170°	±185°	±185°	±185°	±185°
	J5	±120°	±120°	±120°	±120°	±120°
	J6	±360°	±360°	±360°	±360°	±360°
Allowable load torque of joint	J4	11.8N·m	20N·m	22N·m	50N·m	50N·m
	J5	9.8N·m	20N·m	22N·m	50N·m	50N·m
	J6	6.7N·m	10N·m	9.8N·m	19.6N·m	30N·m
Allowable load inertia of joint	J4	0.6Kg·m²	2.8Kg·m²	0.65Kg·m²	1.6Kg·m²	2.5Kg·m²
	J5	0.25Kg·m²	2.8Kg·m²	0.65Kg·m²	1.6Kg·m²	2.5Kg·m²
	J6	0.1Kg·m²	2.7Kg·m²	0.17Kg·m²	0.8Kg·m²	1.5Kg·m²
Air hose configuration		1-Φ8mm	1-Φ10mm	1-Φ8mm	1-Φ10mm	1-Φ10mm
Body integrated signal cable		16 cores				
Installation method		Ground mounting, wall mounting, Hanging mounting				
Operating environment	Ambient temperature	0~45℃				
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation				
	Vibration requirements	Below 0.5G (4.9m/s²)				
Noise level		≤80dB（A）				
Application		Material handling, machine tending, palletizing, bending, stamping, laser cutting				

SR Series of Universal Robots (Handling, loading and unloading, bending robots...)

Model		SR50/2180	SR60/2280B	SR70/2180	SR90/2280B	SR175/2700
						
Construction		Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint
Number of joints		6	6	6	6	6
Drive mode		AC driven	AC driven	AC driven	AC driven	AC driven
Maximum working radius		2180.5mm	2281mm	2180.5mm	2281mm	2701mm
Repeatability of positioning		±0.06mm	±0.06mm	±0.06mm	±0.06mm	±0.06mm
Maximum wrist load		50kg	55kg	70kg	90kg	175kg
Weight of body		564kg	756kg	570kg	759kg	1100kg
IP rating		IP40 (main body) / IP54 (wrist)				
Maximum operating speed	J1	175°/s	150°/s	175°/s	125°/s	125°/s
	J2	170°/s	150°/s	170°/s	105°/s	115°/s
	J3	178°/s	150°/s	178°/s	125°/s	120°/s
	J4	260°/s	215°/s	260°/s	215°/s	190°/s
	J5	260°/s	190°/s	255°/s	165°/s	185°/s
	J6	350°/s	280°/s	350°/s	230°/s	250°/s
Maximum motion range	J1	±160°	±180°	±160°	±180°	±183°
	J2	+130°~-60°	+135°~-126°	+130°~-60°	+135°~-126°	+85°~-60°
	J3	+75°~-195°	+55°~-230°	+75°~-195°	+55°~-230°	+80°~-130°
	J4	±185°	±180°	±185°	±180°	±220°
	J5	±120°	±120°	±120°	±120°	±125°
	J6	±360°	±360°	±360°	±360°	±360°
Allowable load torque of joint	J4	260N·m	229N·m	294N·m	321N·m	1380N·m
	J5	260N·m	229N·m	294N·m	321N·m	1380N·m
	J6	147N·m	136N·m	147N·m	165N·m	735N·m
Allowable load inertia of joint	J4	28Kg·m²	32Kg·m²	28Kg·m²	52Kg·m²	228Kg·m²
	J5	28Kg·m²	32Kg·m²	28Kg·m²	52Kg·m²	228Kg·m²
	J6	11Kg·m²	28Kg·m²	11Kg·m²	45Kg·m²	196Kg·m²
Air hose configuration		1-Φ12mm	2-Φ10mm	1-Φ12mm	2-Φ10mm	2-Φ12mm
Body integrated signal cable		16 cores				
Installation method		Floor mounting				
Operating environment	Ambient temperature	0~45℃				
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation				
	Vibration requirements	Below 0.5G (4.9m/s²)				
Noise level		≤80dB（A）				
Application		Material handling, machine tending, palletizing, bending, stamping, laser cutting				

Vertical Multi-joint Robot - Quick Selection Table

SR Series of Universal Robots (Handling, loading and unloading, bending robots...)

Model		SR175/3200	SR220/2700	SR220/3100	SR280/2850	SR280/3200
						
Construction		Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint
Number of joints		6	6	6	6	6
Drive mode		AC driven	AC driven	AC driven	AC driven	AC driven
Maximum working radius		3200mm	2701mm	3140mm	2851mm	3203mm
Repeatability of positioning		±0.06mm	±0.06mm	±0.1mm	±0.1mm	±0.1mm
Maximum wrist load		175kg	220kg	220kg	280kg	280kg
Weight of body		1150kg	1100kg	1610kg	1600kg	1650kg
IP rating		IP40 (main body) / IP54 (wrist)				
Maximum operating speed	J1	110°/s	120°/s	110°/s	110°/s	110°/s
	J2	100°/s	105°/s	100°/s	100°/s	100°/s
	J3	100°/s	110°/s	100°/s	100°/s	100°/s
	J4	170°/s	170°/s	170°/s	170°/s	170°/s
	J5	160°/s	160°/s	160°/s	145°/s	145°/s
	J6	220°/s	220°/s	220°/s	200°/s	200°/s
Maximum motion range	J1	±183°	±183°	±180°	±180°	±180°
	J2	+85°~-60°	+85°~-60°	+85°~-60°	+85°~-60°	+85°~-60°
	J3	+80°~-130°	+80°~-130°	+80°~-85°	+80°~-85°	+80°~-85°
	J4	±220°	±220°	±220°	±220°	±220°
	J5	±125°	±125°	±125°	±125°	±125°
	J6	±360°	±360°	±360°	±360°	±360°
Allowable load torque of joint	J4	1380N·m	1380N·m	1380N·m	1727N·m	1727N·m
	J5	1380N·m	1380N·m	1380N·m	1727N·m	1727N·m
	J6	735N·m	735N·m	735N·m	950N·m	950N·m
Allowable load inertia of joint	J4	228Kg·m²	228Kg·m²	228Kg·m²	215Kg·m²	215Kg·m²
	J5	228Kg·m²	228Kg·m²	228Kg·m²	215Kg·m²	215Kg·m²
	J6	196Kg·m²	196Kg·m²	196Kg·m²	140Kg·m²	140Kg·m²
Air hose configuration		2-Φ12mm	2-Φ12mm	2-Φ12mm	2-Φ12mm	2-Φ12mm
Body integrated signal cable		16 cores				
Installation method		Floor mounting				
Operating environment	Ambient temperature	0~45℃				
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation				
	Vibration requirements	Below 0.5G (4.9m/s²)				
Noise level		≤80dB（A）				
Application		Material handling, machine tending, spot welding, stamping, laser cutting				

SD Series Desktop Robots

Model		SD7/700	SD7/900	SD12/900	SD10/1100
					
Construction		Vertical multi-joint	Vertical multi-joint	Vertical multi-joint	Vertical multi-joint
Number of joints		6	6	6	6
Drive mode		AC driven	AC driven	AC driven	AC driven
Maximum working radius		723mm	912mm	907mm	1152mm
Repeatability of positioning		±0.02mm	±0.03mm	±0.03mm	±0.03mm
Maximum wrist load		7kg	7kg	12kg	10kg
Weight of body		33kg	35kg	75kg	78kg
IP rating		IP65(main body) / IP67 (wrist)			
Maximum operating speed	J1	315°/s	210°/s	300°/s	300°/s
	J2	250°/s	180°/s	300°/s	300°/s
	J3	350°/s	280°/s	330°/s	330°/s
	J4	450°/s	450°/s	500°/s	500°/s
	J5	450°/s	450°/s	450°/s	450°/s
	J6	720°/s	720°/s	705°/s	705°/s
Maximum motion range	J1	±170°	±170°	±170°	±170°
	J2	+135°~-80°	+135°~-80°	+135°~-100°	+135°~-100°
	J3	+63°~-194°	+65°~-195°	+75°~-200°	+70°~-200°
	J4	±190°	±190°	±190°	±190°
	J5	±125°	±125°	±130°	±130°
	J6	±360°	±360°	±360°	±360°
Allowable load torque of joint	J4	16.6N·m	16.6N·m	25N·m	25N·m
	J5	16.6N·m	16.6N·m	25N·m	25N·m
	J6	9.4N·m	9.4N·m	12N·m	12N·m
Allowable load inertia of joint	J4	0.45Kg·m²	0.45Kg·m²	0.78Kg·m²	0.78Kg·m²
	J5	0.45Kg·m²	0.45Kg·m²	0.78Kg·m²	0.78Kg·m²
	J6	0.15Kg·m²	0.15Kg·m²	0.3Kg·m²	0.3Kg·m²
Air hose configuration		4-channel - base Φ6mm, wrist Φ4mm			
Body integrated signal cable		10 cores (1 core grounded)			
Installation method		Floor mounting, wall mounting, Hanging mounting			
Operating environment	Ambient temperature	0~45℃			
	Ambient humidity	Below 75%RH (short-term 95%RH) No condensation			
	Vibration requirements	Below 0.5G (4.9m/s²)			
Noise level		≤70dB（A）			
Application		Sorting, assembly, labeling, dispensing, visual inspection			

SCARA Robot - Quick Selection Table

AR Series SCARA Robot (2-5kg)

Model			AR3215B	AR4215B	AR5215B
					
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4
Arm length			300mm	400mm	500mm
Standard cycle time*1			0.32s	0.35s	0.39s
Rated/Max load			2kg/5kg	2kg/5kg	2kg/5kg
Axes specifications *2	J1 axis	Arm length	100mm	200mm	300mm
		Rotation range	±134°	±134°	±134°
	J2 axis	Arm length	200mm	200mm	200mm
		Rotation range	±145°	±145°	±145°
	J3 axis	Stroke	150mm	150mm	150mm
	J4 axis	Rotation range	±360°	±360°	±360°
Motor power		J1 axis	400W	400W	400W
		J2 axis	200W	200W	200W
		J3 axis	100W	100W	100W
		J4 axis	100W	100W	100W
Maximum running speed		Synthesis of J1 and J2 axes	6282mm/s	7539mm/s	8796mm/s
		J3 axis	1142mm/s	1142mm/s	1142mm/s
		J4 axis	1762°/s	1762°/s	1762°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.005°	±0.005°	±0.005°
Maximum pressing force of J3 axis			140N	140N	140N
Allowable torque of inertia for J4 axis		Rated	0.009kg·m²	0.009kg·m²	0.009kg·m²
		Max	0.067kg·m²	0.067kg·m²	0.067kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm
Weight of body			12.7kg	13.1kg	13.5kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).

*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.

*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

AR Series SCARA Robot (5-10kg)

Model			AR5520B	AR6520B	AR7520B	AR8520B
						
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4
Arm length			500mm	600mm	700mm	800mm
Standard cycle time*1			0.35s	0.34s	0.3s	0.27s
Rated/Max load			5kg/10kg	5kg/10kg	5kg/10kg	5kg/10kg
Axes specifications *2	J1 axis	Arm length	200mm	300mm	400mm	400mm
		Rotation range	±135°	±135°	±135°	±135°
	J2 axis	Arm length	300mm	300mm	300mm	400mm
		Rotation range	±152°	±152°	±152°	±152°
	J3 axis	Stroke	200mm	200mm	200mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W
		J3 axis	200W	200W	200W	200W
		J4 axis	200W	200W	200W	200W
Maximum running speed		Synthesis of J1 and J2 axes	7690mm/s	8480mm/s	7430mm/s	7330mm/s
		J3 axis	1330mm/s	1330mm/s	1330mm/s	1330mm/s
		J4 axis	1800°/s	1800°/s	1800°/s	1800°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			240N	240N	240N	240N
Allowable torque of inertia for J4 axis		Rated	0.05kg·m²	0.05kg·m²	0.05kg·m²	0.05kg·m²
		Max	0.2kg·m²	0.2kg·m²	0.2kg·m²	0.2kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			24.7kg	25.5kg	26.3kg	27kg

SCARA Robot - Quick Selection Table

AR Series SCARA Robot (10-20kg)

Model			AR61030B	AR71030B	AR81030B	AR101030B	AR121030B
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			600mm	700mm	800mm	1000mm	1200mm
Standard cycle time*1			0.36s	0.35s	0.34s	0.37s	0.42s
Rated/Max load			10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg
Axes specifications *2	J1 axis	Arm length	200mm	300mm	400mm	600mm	600mm
		Rotation range	±132°	±132°	±132°	±132°	±132°
	J2 axis	Arm length	400mm	400mm	400mm	400mm	600mm
		Rotation range	±152°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	300mm	300mm	300mm	300mm	300mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	1000W	1000W	1000W	1000W	1000W
		J2 axis	400W	400W	400W	400W	750W
		J3 axis	400W	400W	400W	400W	400W
		J4 axis	400W	400W	400W	400W	400W
Maximum running speed		Synthesis of J1 and J2 axes	9360mm/s	9000mm/s	9720mm/s	9960mm/s	13080mm/s
		J3 axis	1440mm/s	1440mm/s	1440mm/s	1440mm/s	1440mm/s
		J4 axis	1560°/s	1560°/s	1560°/s	1560°/s	1560°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			510N	510N	510N	510N	510N
Allowable torque of inertia for J4 axis		Rated	0.1kg·m²	0.1kg·m²	0.1kg·m²	0.1kg·m²	0.1kg·m²
		Max	0.9kg·m²	0.9kg·m²	0.9kg·m²	0.9kg·m²	0.9kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			43.1kg	43.7kg	44.3kg	48.1kg	52kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).

*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.

*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

CR Series SCARA Robot (1-3kg) (Economical)

Model			CR3115B	CR4115	CR5115B
					
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4
Arm length			300mm	400mm	500mm
Standard cycle time *1			0.34s	0.37s	0.40s
Rated/Max load			1kg/3kg	1kg/3kg	1kg/3kg
Axes specifications *2	J1 axis	Arm length	100mm	200mm	300mm
		Rotation range	±134°	±134°	±134°
	J2 axis	Arm length	200mm	200mm	200mm
		Rotation range	±145°	±145°	±145°
	J3 axis	Stroke	150mm	150mm	150mm
	J4 axis	Rotation range	±360°	±360°	±360°
Motor power		J1 axis	400W	400W	400W
		J2 axis	200W	200W	200W
		J3 axis	100W	100W	100W
		J4 axis	100W	100W	100W
Maximum running speed		Synthesis of J1 and J2 axes	6240mm/s	7440mm/s	8760mm/s
		J3 axis	1140mm/s	1092mm/s	1140mm/s
		J4 axis	1680°/s	1680°/s	1680°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.005°	±0.005°	±0.005°
Maximum pressing force of J3 axis			140N	140N	140N
Allowable torque of inertia for J4 axis		Rated	0.006kg·m²	0.006kg·m²	0.006kg·m²
		Max	0.067kg·m²	0.067kg·m²	0.067kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm
Weight of body			12.7kg	13.35kg	13.5kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).

*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.

*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

CR Series SCARA Robot (3-6kg) (Economical)

型 号			CR5320B	CR6320B	CR7320B	CR8320B
						
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4
Arm length			500mm	600mm	700mm	800mm
Standard cycle time *1			0.36s	0.35s	0.36s	0.34s
Rated/Max load			3kg/6kg	3kg/6kg	3kg/6kg	3kg/6kg
Axes specifications *2	J1 axis	Arm length	200mm	300mm	400mm	400mm
		Rotation range	±135°	±135°	±135°	±135°
	J2 axis	Arm length	300mm	300mm	300mm	400mm
		Rotation range	±152°	±152°	±152°	±152°
	J3 axis	Stroke	200mm	200mm	200mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W
		J3 axis	200W	200W	200W	200W
		J4 axis	200W	200W	200W	200W
Maximum running speed		Synthesis of J1 and J2 axes	7690mm/s	8480mm/s	7430mm/s	7330mm/s
		J3 axis	1330mm/s	1330mm/s	1330mm/s	1330mm/s
		J4 axis	1800°/s	1800°/s	1800°/s	1800°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			180N	180N	180N	180N
Allowable torque of inertia for J4 axis		Rated	0.04kg·m²	0.04kg·m²	0.04kg·m²	0.04kg·m²
		Max	0.18kg·m²	0.18kg·m²	0.18kg·m²	0.18kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			24.7kg	25.5kg	26.3kg	27kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

CR Series SCARA Robot (5-10kg)*1 (Economical)

Model			CR5520B	CR6520B	CR7520B	CR8520B
						
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4
Arm length			500mm	600mm	700mm	800mm
Standard cycle time *2			0.35s	0.34s	0.3s	0.27s
Rated/Max load			5kg/10kg	5kg/10kg	5kg/10kg	5kg/10kg
Axes specifications *3	J1 axis	Arm length	200mm	300mm	400mm	400mm
		Rotation range	±135°	±135°	±135°	±135°
	J2 axis	Arm length	300mm	300mm	300mm	400mm
		Rotation range	±152°	±152°	±152°	±152°
	J3 axis	Stroke	200mm	200mm	200mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W
		J3 axis	200W	200W	200W	200W
		J4 axis	200W	200W	200W	200W
Maximum running speed		Synthesis of J1 and J2 axes	7690mm/s	8480mm/s	7430mm/s	7330mm/s
		J3 axis	1330mm/s	1330mm/s	1330mm/s	1330mm/s
		J4 axis	1800°/s	1800°/s	1800°/s	1800°/s
Repeatability of positioning *4		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			240N	240N	240N	240N
Allowable torque of inertia for J4 axis		Rated	0.05kg·m²	0.05kg·m²	0.05kg·m²	0.05kg·m²
		Max	0.2kg·m²	0.2kg·m²	0.2kg·m²	0.2kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			24.7kg	25.5kg	26.3kg	27kg

*1: The above four models are available for side wall installation and ceiling installation, with model prefixes WR and FR respectively.
*2: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*3: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*4: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

CR Series SCARA Robot (10-20kg)*1 (Economical)

Model			CR61030B	CR71030B	CR81030B	CR101030B	CR121030B
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			600mm	700mm	800mm	1000mm	1200mm
Standard cycle time *2			0.36s	0.35s	0.34s	0.37s	0.42s
Rated/Max load			10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg
Axes specifications *3	J1 axis	Arm length	200mm	300mm	400mm	600mm	600mm
		Rotation range	±132°	±132°	±132°	±132°	±132°
	J2 axis	Arm length	400mm	400mm	400mm	400mm	600mm
		Rotation range	±152°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	300mm	300mm	300mm	300mm	300mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	1000W	1000W	1000W	1000W	1000W
		J2 axis	400W	400W	400W	400W	750W
		J3 axis	400W	400W	400W	400W	400W
		J4 axis	400W	400W	400W	400W	400W
Maximum running speed		Synthesis of J1 and J2 axes	9360mm/s	9000mm/s	9720mm/s	9960mm/s	13080mm/s
		J3 axis	1440mm/s	1440mm/s	1440mm/s	1440mm/s	1440mm/s
		J4 axis	1560°/s	1560°/s	1560°/s	1560°/s	1560°/s
Repeatability of positioning *4		Synthesis of J1 and J2 axes	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			510N	510N	510N	510N	510N
Allowable torque of inertia for J4 axis		Rated	0.1kg·m²	0.1kg·m²	0.1kg·m²	0.1kg·m²	0.1kg·m²
		Max	0.9kg·m²	0.9kg·m²	0.9kg·m²	0.9kg·m²	0.9kg·m²
Body IO (Digital)			6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			47.9kg	49.2kg	50.6kg	53.2kg	55kg

*1: The above 5 models are available for side wall installation and ceiling installation, with model prefixes WR and FR respectively.
*2: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*3: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*4: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

YR Series SCARA Robots (5–10 kg)*1 - High Inertia Capability

Model			YR5520	YR6520	YR7520	YR7520-P	YR8520	YR8520-P
								
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4	4
Arm length			500mm	600mm	700mm	700mm	800mm	800mm
Standard cycle time *2			0.35s	0.34s	0.32s	0.32s	0.27s	0.27s
Rated/Max load			5kg/10kg	5kg/10kg	5kg/10kg	5kg/10kg	5kg/10kg	5kg/10kg
Axes specifications *3	J1 axis	Arm length	200mm	300mm	300mm	300mm	400mm	400mm
		Rotation range	±135°	±135°	±135°	±135°	±135°	±135°
	J2 axis	Arm length	300mm	300mm	400mm	400mm	400mm	400mm
		Rotation range	±152°	±152°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	200mm	200mm	200mm	200mm	200mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W	400W	400W
		J3 axis	200W	200W	200W	200W	200W	200W
		J4 axis	200W	200W	200W	200W	200W	200W
Maximum running speed		Synthesis of J1 and J2 axes	7690mm/s	8480mm/s	6800mm/s	6800mm/s	7330mm/s	7330mm/s
		J3 axis	1330mm/s	1330mm/s	1330mm/s	1330mm/s	1330mm/s	1330mm/s
		J4 axis	720°/s	720°/s	720°/s	720°/s	720°/s	720°/s
Repeatability of positioning *4		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			240N	240N	240N	240N	240N	240N
Allowable torque of inertia for J4 axis		Rated	0.25kg·m²	0.25kg·m²	0.25kg·m²	0.25kg·m²	0.25kg·m²	0.25kg·m²
		Max	0.8kg·m²	0.8kg·m²	0.8kg·m²	0.8kg·m²	0.8kg·m²	0.8kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			27.2kg	28kg	28.2kg	28.7kg	29kg	29.5kg

*1: The above 6 models are available for side wall installation and ceiling installation, with model prefixes of WYR and FYR respectively.
*2: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*3: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*4: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

YR Series SCARA Robots (10–20 kg)[*1] [*2]- High Inertia Capability

Model			YR61030	YR71030	YR81030	YR101030	YR121030
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			600mm	700mm	800mm	1000mm	1200mm
Standard cycle time *3			0.38s	0.37s	0.36s	0.37s	0.39s
Rated/Max load			10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg	10kg/20kg
Axes specifications *4	J1 axis	Arm length	200mm	300mm	400mm	600mm	600mm
		Rotation range	±132°	±132°	±132°	±132°	±132°
	J2 axis	Arm length	400mm	400mm	400mm	400mm	600mm
		Rotation range	±152°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	300mm	300mm	300mm	300mm	300mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	1000W	1000W	1000W	1000W	1000W
		J2 axis	750W	750W	750W	750W	750W
		J3 axis	400W	400W	400W	400W	400W
		J4 axis	400W	400W	400W	400W	400W
Maximum running speed		Synthesis of J1 and J2 axes	8280mm/s	9000mm/s	8760mm/s	9960mm/s	13080mm/s
		J3 axis	1920mm/s	1920mm/s	1920mm/s	1920mm/s	1920mm/s
		J4 axis	840°/s	840°/s	840°/s	840°/s	1560°/s
Repeatability of positioning *5		Synthesis of J1 and J2 axes	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.004°	±0.004°	±0.004°	±0.004°	±0.004°
Maximum pressing force of J3 axis			380N	380N	380N	380N	380N
Allowable torque of inertia for J4 axis		Rated	0.4kg·m²	0.4kg·m²	0.4kg·m²	0.4kgm²	0.4kgm²
		Max	2.0kg·m²	2.0kg·m²	2.0kg·m²	2.0kgm²	2.0kgm²
Body IO (Digital)			6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			43.8kg	44.5kg	45.9kg	48.4kg	52.7kg

*1: The above 5 models can be equipped with an auxiliary support rod, with the model number suffixed with "-P".
*2: The above 5 models are available for side wall installation and ceiling installation, with model prefixes of WYR and FYR respectively.
*3: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*3: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

YR Series SCARA Robots (20–60 kg) - High Inertia Capability

Model			YR122040	YR123040
				
Type			Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4
Arm length			1200mm	1200mm
Standard cycle time *1			0.7s(10kg)	0.67s(10kg)
Rated/Max load			20kg/50kg	30kg/60kg
Axes specifications *2	J1 axis	Arm length	600mm	600mm
		Rotation range	±130°	±130°
	J2 axis	Arm length	600mm	600mm
		Rotation range	±150°	±150°
	J3 axis	Stroke	400mm	400mm
	J4 axis	Rotation range	±360°	±360°
Motor power		J1 axis	1500W	1500W
		J2 axis	750W	750W
		J3 axis	750W	750W
		J4 axis	400W	400W
Maximum running speed		Synthesis of J1 and J2 axes	8880mm/s	70000mm/s
		J3 axis	1000mm/s	1500mm/s
		J4 axis	720°/s	350°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.03mm	±0.03mm
		J3 axis	±0.02mm	±0.02mm
		J4 axis	±0.005°	±0.005°
Maximum pressing force of J3 axis			846N	846N
Allowable torque of inertia for J4 axis		Rated	1kgm²	1kgm²
		Max	2.4kgm²	2.45kgm²
Body IO (Digital)			DB 26 connector, (Expandable IO interface)	DB 26 connector, (Expandable IO interface)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm
Weight of body			133.5kg	133.5kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

FR Series SCARA Robot (1-5kg) (Inverted mounting)

Model			FR3215B	FR4215B	FR5215B	FR6115B	FR8320
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			350mm	450mm	550mm	600mm	850mm
Standard cycle time *1			0.34s	0.39s	0.39s	0.40s	0.5s
Rated/Max load			2kg/5Kg	2kg/5Kg	2kg/5Kg	1kg/4kg	3kg/5kg
Axes specifications *2	J1 axis	Arm length	175mm	175mm	275mm	300mm	425mm
		Rotation range	±360°	±360°	±360°	±360°	±360°
	J2 axis	Arm length	175mm	275mm	275mm	300mm	425mm
		Rotation range	±360°	±360°	±360°	±360°	±360°
	J3 axis	Stroke	150mm	150mm	150mm	150mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W	400W
		J3 axis	100W	100W	100W	100W	200W
		J4 axis	100W	100W	100W	100W	200W
Maximum running speed		Synthesis of J1 and J2 axes	6400mm/s	9000mm/s	10100mm/s	11100mm/s	7927mm/s
		J3 axis	1320mm/s	1320mm/s	1320mm/s	1320mm/s	1666mm/s
		J4 axis	2400°/s	2400°/s	2400°/s	2400°/s	1800°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.015mm	±0.015mm	±0.015mm	±0.03mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.02mm
		J4 axis	±0.005°	±0.005°	±0.005°	±0.005°	±0.01°
Maximum pressing force of J3 axis			150N	150N	150N	150N	190N
Allowable torque of inertia for J4 axis		Rated	0.005kg·m²	0.005kg·m²	0.005kg·m²	0.005kg·m²	0.05kg·m²
		Max	0.05kg·m²	0.05kg·m²	0.05kg·m²	0.05kg·m²	0.2kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm	3-Φ6mm
Weight of body			22kg	22.5kg	23.5kg	24kg	35kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

ARJ Series SCARA Robot (2-10kg) (Cleanroom)

Model			FR5215B-J	ARJ-L10-20 -1R5Z17	ARJ-L10-20 -1R6Z17	ARJ-L10-20 -1R7Z17	ARJ-L10-20 -1R8Z17
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			550mm	500mm	600mm	700mm	800mm
Standard cycle time *1			0.39s	0.35s	0.34s	0.3s	0.27s
Rated/Max load			2kg/5kg	5kg/10Kg	5kg/10Kg	5kg/10Kg	5kg/10Kg
Axes specifications *2	J1 axis	Arm length	275mm	200mm	300mm	400mm	400mm
		Rotation range	±360°	±135°	±135°	±135°	±135°
	J2 axis	Arm length	275mm	300mm	300mm	300mm	400mm
		Rotation range	±360°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	120mm	170mm	170mm	170mm	170mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	750W	750W	750W	750W	750W
		J2 axis	400W	400W	400W	400W	400W
		J3 axis	100W	200W	200W	200W	200W
		J4 axis	100W	200W	200W	200W	200W
Maximum running speed		Synthesis of J1 and J2 axes	10100mm/s	7960mm/s	8480mm/s	7430mm/s	7330mm/s
		J3 axis	1320mm/s	1330mm/s	1330mm/s	1330mm/s	1330mm/s
		J4 axis	2400°/s	1800°/s	1800°/s	1800°/s	1800°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.015mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.005°	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			150N	240N	240N	240N	240N
Allowable torque of inertia for J4 axis		Rated	0.005kg·m²	0.05kg·m²	0.05kg·m²	0.05kg·m²	0.05kg·m²
		Max	0.05kg·m²	0.2kg·m²	0.2kg·m²	0.2kg·m²	0.2kg·m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			2-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			23.8kg	25.2kg	26kg	26.8kg	27.5kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

ARJ Series SCARA Robot (10-20kg)　(Cleanroom)

Model			ARJ-L10-20 -2R6Z26	ARJ-L10-20 -2R7Z26	ARJ-L10-20 -2R8Z26	ARJ-L10-20 -2R10Z26	ARJ-L10-20 -2R12Z26
							
Type			Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4	4	4	4
Arm length			600mm	700mm	800mm	1000mm	1200mm
Standard cycle time *1			0.36s	0.35s	0.34s	0.37s	0.42s
Rated/Max load			10kg/20Kg	10kg/20Kg	10kg/20Kg	10kg/20Kg	10kg/20Kg
Axes specifications *2	J1 axis	Arm length	200mm	300mm	400mm	600mm	600mm
		Rotation range	±132°	±132°	±132°	±132°	±132°
	J2 axis	Arm length	400mm	400mm	400mm	400mm	600mm
		Rotation range	±152°	±152°	±152°	±152°	±152°
	J3 axis	Stroke	260mm	260mm	260mm	260mm	260mm
	J4 axis	Rotation range	±360°	±360°	±360°	±360°	±360°
Motor power		J1 axis	1000W	1000W	1000W	1000W	1000W
		J2 axis	400W	400W	400W	400W	750W
		J3 axis	400W	400W	400W	400W	400W
		J4 axis	400W	400W	400W	400W	400W
Maximum running speed		Synthesis of J1 and J2 axes	9360mm/s	9000mm/s	9720mm/s	9960mm/s	13080mm/s
		J3 axis	1440mm/s	1440mm/s	1440mm/s	1440mm/s	1440mm/s
		J4 axis	1560°/s	1560°/s	1560°/s	1560°/s	1560°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.02mm	±0.02mm	±0.02mm	±0.02mm	±0.02mm
		J3 axis	±0.01mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°	±0.01°	±0.01°	±0.01°
Maximum pressing force of J3 axis			510N	510N	510N	510N	510N
Allowable torque of inertia for J4 axis		Rated	0.1kg · m²	0.1kg · m²	0.1kg · m²	0.1kg · m²	0.1kg · m²
		Max	0.9kg · m²	0.9kg · m²	0.9kg · m²	0.9kg · m²	0.9kg · m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm	3-Φ6mm
Weight of body			48.4kg	49.7kg	51kg	53.6kg	55.4kg

*1:　Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2:　The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3:　Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

HR Series SCARA Robot (High-speed)

Model			HR4215	HR5215
				
Type			Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4
Arm length			400mm	550mm
Standard cycle time *1			0.31s	0.31s
Rated/Max load			2kg/5kg	2kg/5kg
Axes specifications *2	J1 axis	Arm length	200mm	350mm
		Rotation range	±140°	±140°
	J2 axis	Arm length	200mm	200mm
		Rotation range	±142°	±142°
	J3 axis	Stroke	150mm	150mm
	J4 axis	Rotation range	±360°	±360°
Motor power		J1 axis	750W	750W
		J2 axis	400W	400W
		J3 axis	100W	100W
		J4 axis	100W	100W
Maximum running speed		Synthesis of J1 and J2 axes	5654mm/s	6400mm/s
		J3 axis	1142mm/s	1142mm/s
		J4 axis	1761°/s	1761°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.01mm	±0.01mm
		J3 axis	±0.01mm	±0.01mm
		J4 axis	±0.005°	±0.005°
Maximum pressing force of J3 axis			140N	140N
Allowable torque of inertia for J4 axis		Rated	0.008kg · m²	0.08kg · m²
		Max	0.07kg · m²	0.7kg · m²
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)	7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			2-Φ6mm 1-Φ4mm	2-Φ6mm 1-Φ4mm
Weight of body			18kg	19kg

*1:　Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2:　The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3:　Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

Yunxia Series SCARA Robot (4-8kg)[*1] (High-speed)

Model			Yunxia6430	Yunxia6430-F
				
Type			Horizontal multi-joint	Horizontal multi-joint
Number of axes			4	4
Arm length			640mm	640mm
Standard cycle time			0.24s	0.24s
Rated/Max load			4kg/8kg	4kg/8kg
Axes specifications *3	J1 axis	Arm length	390mm	390mm
		Rotation range	±180° *2	±180° *2
	J2 axis	Arm length	250mm	250mm
		Rotation range	±152°	±152°
	J3 axis	Stroke	300mm	300mm
	J4 axis	Rotation range	±360°	±360°
Motor power			3750W	3750W
Maximum running speed		Synthesis of J1 and J2 axes	6200mm/s	6200mm/s
		J3 axis	2800mm/s	2800mm/s
		J4 axis	3000°/s	3000°/s
Repeatability of positioning *4		Synthesis of J1 and J2 axes	±0.015mm	±0.015mm
		J3 axis	±0.01mm	±0.01mm
		J4 axis	±0.01°	±0.01°
Maximum pressing force of J3 axis			220N	220N
Allowable torque of inertia for J4 axis		Rated	0.01kg·m²	0.01kg·m²
		Max	0.14kg·m²	0.14kg·m²
Body IO (Digital)			6 DO (NPN) 6 DI (NPN)	6 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)	19-way DO (NPN) 28-way DI (NPN | PNP)
Air hose configuration			2-Φ6mm	2-Φ6mm
Weight of body			58kg	58kg

*1 : Three arm span lengths are available: 480mm, 640mm, and 800mm. It can be installed vertically or hung.
*2 : The J1 axis is set to ±180 degrees by default at shipment. It can be adjusted to ±156 degrees via mechanical limit switches.
*3 : The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*4 : Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SPAR Series Columnar SCARA Robot (7-15kg)

Model			SPAR5100	SPAR7720	SPAR9720
					
Type			Column type	Column type	Column type
Number of axes			3	4	4
Arm length			490mm	725mm	900mm
Standard cycle time *1			/	0.37s	0.40s
Rated/Max load			1kg/1kg	7kg/15kg	7kg/12kg
Axes specifications *2	J1 axis	Arm length	280mm	350mm	500mm
		Rotation range	±123°	±130°	±130°
	J2 axis	Arm length	210mm	375mm	400mm
		Rotation range	±150°	±150°	±150°
	J3 axis	Stroke	/	200mm	200mm
	J4 axis	Rotation range	±360°	±360°	±360°
Maximum running speed		Synthesis of J1 and J2 axes	3880mm/s	5610mm/s	6540mm/s
		J3 axis	/	1120mm/s	1120mm/s
		J4 axis	900°/s	580°/s	580°/s
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.03mm	±0.015mm	±0.02mm
		J3 axis	±0.03mm	±0.01mm	±0.01mm
		J4 axis	/	±0.01°	±0.01°
Maximum pressing force of J3 axis			/	140N	140N
Allowable torque of inertia for J4 axis		Rated	0.002kg·m²	0.25kg·m²	0.25kg·m²
		Max	0.02kg·m²	0.8kg·m²	0.8kg·m²
Controller IO (Digital)			/	19 DO (NPN) 28 DI (NPN | PNP)	19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			/	2-Φ6mm 4-Φ4mm	2-Φ6mm 4-Φ4mm
Weight of body			15kg	70kg	73kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

SCARA Robot - Quick Selection Table

PTR Series SCARA Robot (Screwdriving)

Model			PTR5512
			
Type			Horizontal multi-joint
Number of axes			3
Arm length			550mm
Standard cycle time *1			0.39s
Rated/Max load			5kg/10kg
Axes specifications *2	J1 axis	Arm length	300mm
		Rotation range	±130°
	J2 axis	Arm length	250mm
		Rotation range	±140°
	J3 axis	Stroke	120mm
	J4 axis	Rotation range	/
Motor power		J1 axis	750W
		J2 axis	400W
		J3 axis	200W
		J4 axis	/
Maximum running speed		Synthesis of J1 and J2 axes	7461mm/s
		J3 axis	1600mm/s
		J4 axis	/
Repeatability of positioning *3		Synthesis of J1 and J2 axes	±0.025mm
		J3 axis	±0.025mm
		J4 axis	/
Maximum pressing force of J3 axis			250N
Allowable torque of inertia for J4 axis		Rated	/
		Max	/
Body IO (Digital)			7 DO (NPN) 6 DI (NPN)
Controller IO (Digital)			19 DO (NPN) 28 DI (NPN | PNP)
Air hose configuration			4-Φ6mm
Weight of body			20kg

*1: Under a load of 2kg (horizontal 300mm, vertical 25mm), duration for round-trip arch motion (maximum velocity, optimal pose/path).
*2: The axes specifications are the theoretical parameters of the structure, and the actual parameters are subject to the software setting parameters.
*3: Repeatability accuracy of robot end pose in optimal range/reliable stopping time.

STEP

Vertical Articulated Robot Control System

Most Powerful Brain

SRC4 STEP Fourth Generation Robot Controller

May be

The world's smallest heavy-duty robot control cabinet

↓70 %	139 items	IP 54
Volume reduction	Rigorous testing	Protection grade

- Highly integrated drive and control cabinet with flexible axis configuration: 4~8 axes, wide power range: 50W~7.5kW
- More aesthetically pleasing industrial design, a perfect blend of compactness and high protection, with a volume reduction of up to 70% compared to conventional products on the market, and an IP54 protection rating.
- Through-wall partitioned cavity structure design, ensuring higher energy density and superior heat dissipation.
- Board plug-in assembly design, reducing the wiring harnesses by over 30% and enhancing system reliability.
- Enhanced connectivity with DIO, AIO, high-speed counting interfaces, and support for master/slave interfaces of all mainstream buses including ECAT, PN, EIP, and CCLink.
- Motion planning and vibration suppression technologies based on dynamic models, enabling faster, more accurate and more intelligent robot motion
- Servo auto-tuning, offline simulation, configuration monitoring and black box functions, significantly reducing on-site commissioning and deployment time.
- The 200V-class S cabinet supports robots weighing 25kg and below, while the 400V-class L cabinet supports robots up to 600kg.

SRC4 - S - 6 - 024 - A1 - P **

① ② ③ ④ ⑤ ⑥ ⑦

①Series: SRC4: STEP Robotics 4th Generation Control Cabinet	②Model: S: S Small Cabinet (for models 20kg and below, single-phase 220V) L: L Large Cabinet (for models 20kg and above, three-phase 380V) FS: S Small additional axis cabinet (single-phase 220V) FL: L Large additional axis cabinet (three-phase 380V)	③Number of axles supported: Standard Cabinet 4: 4-axis 6: 6-axis 8: 8-axis Additional axis cabinet 1~6 axes optional	④Axis Power Combinations (from left to right, 0~4 for 200V class, 5~8 for 380V class): 0#: 2.7kW, 2.7kW 1#: 1.5kW, 1.5kW 2#: 1.5kW, 750W 3#: 750W, 400W 4#: 200W, 200W 5#: 7.5kW 6#: 4.5kW 7#: 2kW 8#: 1kW
⑤Style: A1: Horizontal heavy load A2: Horizontal straight-through B1: Vertical heavy load B2: Vertical straight-through Note: L and FL type cabinets do not support vertical installation.	⑥IO type: P: Optional PNP type N: Optional NPN type	⑦Optional identifier: Vacancy: STEP Standard ECAT: STEP EtherCAT Type Multi-axis servo cabinet	

Characteristic Parameters

Main Control Cabinet Specifications		
Cabinet Model	S Cabinet	L Cabinet
Support for ontology models	STEP SD&SA full series, as well as SR20/25 models	STEP SR (50kg and above) full series
Number of Control Axes	4-axis, 6-axis, 8-axis	
Axis power	50W~2.7kW	1kW~7.5kW
Standard IO	24DI, 24DO (single-channel DO Max 400mA); 4AI, 4AO (±10V or 4~20mA)	
Safety IO	Access switch input, external emergency stop input, external emergency stop output (all with safety-redundant dual-channel signals)	
Communication interface	1 EtherCAT master network port for connecting external EtherCAT expansion devices, 100Mbps	
	1 PN or EIP slave network port for either slave protocols with software-selectable options, 100Mbps	
	1 debugging network port for connecting to debugging software, 100Mbps	
	1 EtherNet port for field device interconnection or network device connection, 100Mbps	
	1 RS232 port, 1 RS485 port, 1 CAN port (implemented via optional custom communication cable)	
Counting interface	3 high-speed counting ports, up to 100kHz, compatible with 24V encoders (multiplexed with DI22~DI24)	
Encoder interface	Reserved 6 encoder interfaces for external use (compatible with encoders up to 25-bit, Max 4MHz)	
Bus slave station expansion	By installing an optional communication module on the back, add 8 types of bus slave interfaces: PROFINET, EtherNet/IP, CC-Link, Modbus-TCP, EtherCAT, CANopen, DeviceNet, and PROFIBUS-DP.	
Input voltage	Single-phase 220V AC (±10%), 50~60Hz	Three-phase 380V AC (±10%), 50~60Hz
Input curren	Max 15A	Max 25A
Maximum output power	3.5kW	10kW
Operating environment temperature	0~45℃	
Protection grade	IP54	
Mounting method	Horizontally-mounted (default), vertically-mounted (optional)	Horizontally-mounted
Size	420mm×529mm×156mm	554mm×607mm×272mm
Weight	18kg (6-axis)	50kg (6-axis)

Additional Axis Control Cabinet Specifications		
Cabinet Model	FS Additional axis cabinet	FL Additional axis cabinet
Support for ontology models	220V/2.7kW and below additional axis motor	380V/7.5kW and below additional axis motor
Number of Control Axes	1~6 axes optional	
Axis power	50W~2.7kW	1kW~7.5kW
Input voltage	Single-phase 220V AC (±10%), 50~60Hz	Three-phase 380V AC (±10%), 50~60Hz
Input current	Max 15A	Max 25A
Maximum output power	3.5kW	10kW
Mounting method	Horizontally-mounted (default), vertically-mounted (optional)	Horizontally-mounted
Size	420mm×529mm×156mm	554mm×607mm×272mm
Weight	Max. 18kg	Max. 50kg

Vertical Articulated Robot Control System

Software system

The software functions are divided into basic functions and advanced functions

Basic Functions

- Security protection
- User management
- Engineering, program and variable management
- Teaching and management of tools and coordinate systems
- Inching/Automatic operation and position viewing
- Speed settings and viewing
- Manual/Auto/External auto switching

Advanced Functions

- PLC function: Provide interfaces between the robot and external PLCs, external PLC control, and use of external tracking coordinate systems
- Spot welding function: Dedicated software interface for configuring and monitoring spot welding process parameters, online replacement of servo welding guns, and automatic compensation for electrode wear
- Arc welding function: Support 1D/2D/3D/associated locating, weaving, arc tracking, intermittent welding, welding monitoring, laser tracking, etc.
- Palletizing function: Custom pallet patterns, with automatic generation of palletizing and depalletizing programs, offering simple and flexible operation
- Bending function: Compatible with mainstream bending machine control systems such as Delem, CYBELEC, and ESA. Bending statements are plug-and-play, requiring no teaching.
- Additional axis: Up to six additional axes can be configured; commonly used additional axes include positioner and rail
- Soft floating function: Support soft floating configuration in both joint coordinate system and Cartesian coordinate system
- Drag teaching function: This function can be enabled or disabled at any time during operation to enhance debugging and teaching efficiency.
- Anti-collision function: No auxiliary sensors required. Utilizing the robot's dynamic model for real-time monitoring, the system immediately halts upon collision detection

Spot Welding Function — Software Interface

Palletizing Function — Software Interface

Bending Function — Software Interface

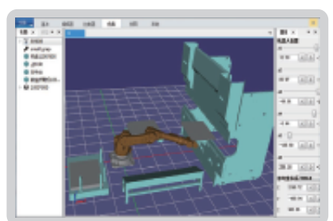
Communication Settings — Software Interface

Pipeline Tracking — Software Interface

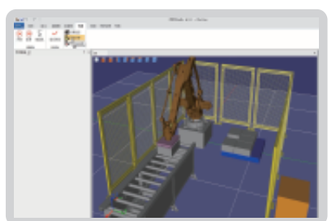
Collision Detection - Software Interface

STEPStudio Offline Programming Software

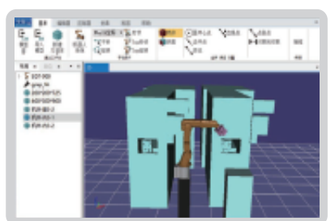
- Facilitate the construction of diverse workstation scenarios and support various common formats such as STL and STEP
- Support robot teaching programming, motion simulation, reachability testing, cycle time testing, and output of simulation videos
- Support robot position and pose dragging, point capturing, and measurement functions
- Integrate STEP software function packages such as spot welding, assembly line, and other process scenarios for design
- Adopt dynamic compensation with the STEP virtual controller to enhance simulation cycle accuracy
- CAM: Automatically generate path trajectories based on the model, quickly verify point reachability, enable batch adjustment of points, and output executable program files
- Support multi-machine simulation



Bending simulation workstation



Palletizing assembly line simulation workstation



Machine tool loading and unloading simulation workstat

Teach Pendant

Product Introduction

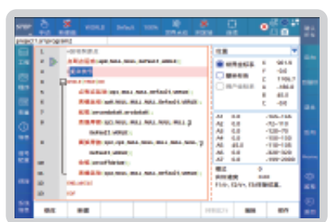
- Two types of physical teach pendants available for on-demand selection
- Slim and lightweight body with ergonomic design for effortless handling
- Touchscreen teach pendant with 8-inch capacitive screen to achieve elegant interface, rational layout and smooth operation
- Dedicated welding teach pendant with full-keyboard operation in support of blind operation to enhance debugging efficiency
- Support offline operation of the teach pendant and provide a PC-based virtual teach pendant, enabling robot programming and control via PC, delivering cost-effective configuration solutions for customers

Functional Features

- A clean, intuitive, and user-friendly interface
- User-friendly button layout
- Highly reliable key and touchscreen design
- Effectively reduce on-site debugging time

Functional Description

Basic Function Interface



SCARA Robot Control System

QC410 Integrated Drive and Control System

High performance (Compared with the previous generation QC400)

- CPU performance increased by 67%, memory by 100%, and hard disk by 700%.
- Powered by dynamic algorithms, the intelligent optimal acceleration enhances efficiency by an average of 5% in cycle time and extends the lifespan of key components by an average of 10%
- The vibration suppression algorithm upgrade enhances the trajectory accuracy by an average of 10% and reduces the stop settling time by an average of 30%, achieving higher positioning precision

Usability

- Weight reduced by 43%, volume decreased by 27%, making transportation and installation more convenient
- Standard 3 Ethernet ports for easy device networking
- PC-based ARStudio software programming and control

Scalability

- The software ARStudio is scalable, with modular and flexible expansion of functions and process libraries
- Support secondary development based on the Modbus protocol, enabling robot motion control and status monitoring
- Support bus protocols such as EtherNet/IP and EtherCAT, with expandable external additional axes
- Supports bus protocols such as EthernetIP, EtherCAT, Profinet, and CC-link
- Scalable IO, expandable external additional axes
- Support third-party visual automatic calibration, support conveyor line following, flying shooting and other processes

Basic Specifications

Model		QC410	External storage support		USB flash drive
Compatible with robots		SCARA series below 20kg*1	Emergency stop method		Hardware emergency stop
External communication interface	EtherCAT	1	Programming environment	Programming language	AR language
	Ethernet	3		Multithreading	Maximum 10 threads
	RS-485	1		Point capacity of single program	3000 points
	RS-232	2		Program capacity	1GB
	USB(2.0)	1		Maximum program step size	10000
The fieldbus protocol supports the controller as the master station		Modbus-TCP	Standard IO	IO input	34-channel
		Modbus RTU		IO output	26-channel
		Fins	Basic specifications	Overall dimensions	345*234 (including terminals) *150mm
		S7		Weight	7.45kg
		MC		Power cable	1500mm
		ADS		Power supply specifications	Single-phase AC200-240V, 50Hz/60Hz
		EtherCAT (Optional)		Maximum power consumption	3000VA
The fieldbus protocol supports the controller as the slave station		Modbus-TCP		Operating temperature	-5~50°C
		Modbus RTU		Operating humidity	Below 90%RH (no condensation)
		EtherNet/IP		Storage temperature	-30~70°C
		CC-link、PROFINET (Optional, requiring additional accessories)	Optional control mode	Handheld teach pendant	ADT-RPB07
		EtherCAT (Optional, requiring additional accessories)		PCsoftware	ARStudio
Axis control function	Number of Control Axes	4-axis			
	Position control cycle	8K			
	Motion trajectory control function	Point-to-point motion, arc motion, linear trajectory, circular trajectory, spline trajectory, smooth transition, and various types of acceleration/deceleration			
	Coordinate system	Joint coordinate system, world coordinate system, tool coordinate system, user coordinate system			
	Position unit setting	°, mm			
	Acceleration/Deceleration setting	Set based on acceleration/deceleration parameters / Automatically set based on load weight and inertia.			
	Offline motion	Absolute position control mode (no homing required)			

*1 The compatible controller models for YR122040, YR123040, and the Yunxia series are QC411. Compared to QC410, QC411 has the same software functionality, but it has higher power and a slightly larger size

Teach Pendant Specifications (Optional)

Model	ADT-RPB07	Display	8-inch color screen	Teaching mode	Inching teaching, drag teaching, fill-in/external input
Data cable	Standard: 5m Optional: 10m	Dimensions/ Weight	355*248*70mm/2kg	Power Supply	24VDC
Communication	EtherNet	Usage	Touch/Button	Data exchange mode	USB

Extended IO Module Specifications (Optional, up to 2 modules expanded)

Model	EM1144A	Input/Output	16/16	Module communication protocol	Modbus-TCP

Product Configuration

Supported motor types	ADTECH (QXS Series)	Motor power range: 100-1000W
	Tamagawa	Motor power range: 100-1000W
	Panasonic	Motor power range: 100-1000W
Supported encoder types		Multi-turn absolute, single-turn absolute

Robot Control System

VRC621 Integrated Vision Drive and Control System

High performance

- CPU performance increased by 67%, memory by 100%, and hard disk by 700%.
- Powered by dynamic algorithms, the intelligent optimal acceleration enhances efficiency by an average of 5% in cycle time and extends the lifespan of key components by an average of 10%
- The vibration suppression algorithm upgrade enhances the trajectory accuracy by an average of 10% and reduces the stop settling time by an average of 30%, achieving higher positioning precision

Higher integration level

- Integrate vision controller, light source controller, and robot controller, reducing volume by 25%, weight by 20%, and wiring by 20%.

Wider application scope

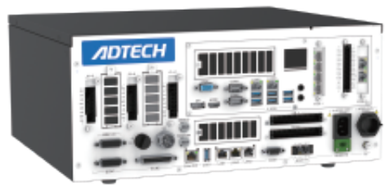
- It can control various scenarios such as SCARA robots, six-axis robots, SD series robots, modules and robot + module combinations

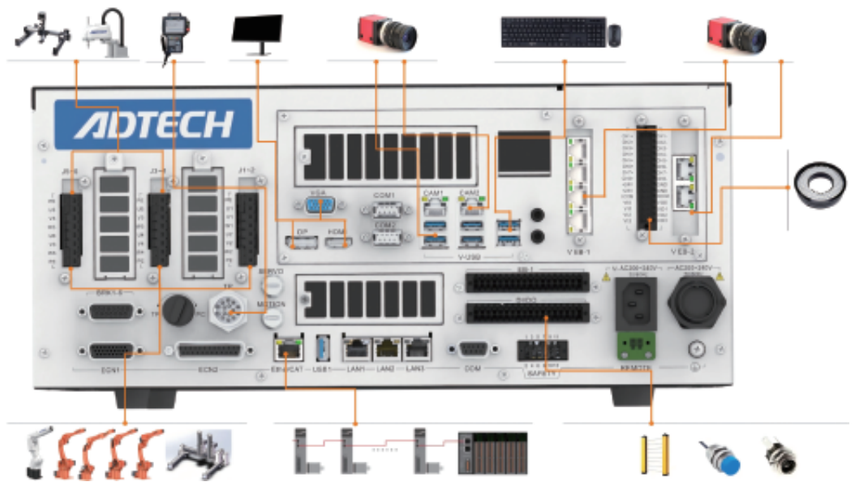
Stronger usability

- The all-in-one development mode enables the deployment of robot, vision system, and interface within a single software platform, offering simplicity and ease of use.

Strong scalability

- Control up to 32 additional axes via EtherCAT bus, support secondary development based on the Modbus protocol, enabling robot motion control and status monitoring, and support bus protocols such as EtherNet/IP and CC link





Basic Specifications

Model		VRC621	Model		VRC621
Compatible with robots		SCARA full series, SD series, SA series, SR series (within 20kg)	External storage support		USB flash drive
			Emergency stop method		Hardware emergency stop
External communication interface	EtherCAT	1	Programming environment	Programming language	AR language
	Ethernet	3		Multithreading	Maximum 10 threads
	RS-485	1		Point capacity of single program	3000 points
	RS-232	2		Program capacity	1GB
	USB(2.0)	1		Maximum program step size	10000
The fieldbus protocol supports the controller as the master station		Modbus-TCP	Standard IO	IO input	16-channel
		Modbus RTU		IO output	16-channel
		Fins	Basic specifications	Overall dimensions	405mm*367mm*186mm (Including terminals)
		S7		Weight	14kg
		MC		Power cable	1500mm
		ADS		Power supply specifications	Single-phase AC 200-240V 50Hz/60Hz
		EtherCAT (Optional)		Maximum power consumption	4000VA
The fieldbus protocol supports the controller as the slave station		Modbus-TCP		Operating temperature	-5~50°C
		Modbus RTU		Operating humidity	Below 90% RH (No condensation)
		EtherNet/IP		Storage temperature	-30~70°C
		Profinet (Optional, requiring additional accessories)	Optional control mode	Handheld teach pendant	ADT-RPB07
		EtherCAT (Optional, requiring additional accessories)			ADT-RPB10
		CC link (Optional, requiring additional accessories)		PCsoftware	ARStudioX64 (integrated vision control edition)
Axis control function	Number of Control Axes	6-axis			
	Position control cycle	10K			
	Motion trajectory control function	Point-to-point motion, arc motion, linear trajectory, circular trajectory, spline trajectory, smooth transition, and various types of acceleration/deceleration			
	Coordinate system	Joint coordinate system, world coordinate system, tool coordinate system, user coordinate system			
	Position unit setting	°, mm			
	Acceleration/Deceleration setting	Set based on acceleration/deceleration parameters / Automatically set based on load weight and inertia.			
	Offline motion	Absolute position control mode (no homing required)			
Visual function	CPU	Intel 6th~9th Gen optional	Visual function	Light source control	8-channel light source, single channel up to 3A, DC24V external power supply
	Memory	Standard 8GB, expandable up to 32GB		GPIO	4-channel DI, 4-channel DO
	Hard disk	Standard 256GB, expandable with double hard disks		Operating system	win10 64-bit
	Camera interface	2 Intel Gigabit Ethernet ports		VEB-1	Support expansion of 4 network cameras or USB 3.0 cameras
	USB interface	USB3.0 x4 USB2.0 x2		VEB-2	Support expansion of 4 network cameras or USB 3.0 cameras
	Serial port	2		Remote power-on terminal	1
	Display interface	1 VGA, 1 HDMI, 1 DP			

Extended IO Module Specifications (Optional, up to 2 modules expanded)

Model	EM1144A	Input/Output	16/16	Module communication protocol	Modbus-TCP

Product Configuration

Supported motor types	ADTECH (QXS Series)	Motor power range: 100-1000W
	Tamagawa	Motor power range: 100-1000W
	Panasonic	Motor power range: 100-1000W
Supported encoder types		Multi-turn absolute, single-turn absolute

Robot Control System

ARStudio
Robot Upper Computer Software

- PC-based robot programming and control software
- Support virtual operation, programming and control without controller connection
- Feature-rich, practical, and user-friendly programming environment
- Built-in sample programs for various application processes
- Built-in comprehensive and detailed documentation
- Support 3D simulation of robot motion

Software Operating Environment

Operating system	WindowsXP/ Windows vita/ Windows7/ Windows8 / Windows10
Installation platform	PC / RPB07 teach pendant
Controller support	QC410 Integrated Drive and Control Unit
Download method	Adtech Official Website - Download Center - Industrial Robots - ARStudio

Basic Software Functions List

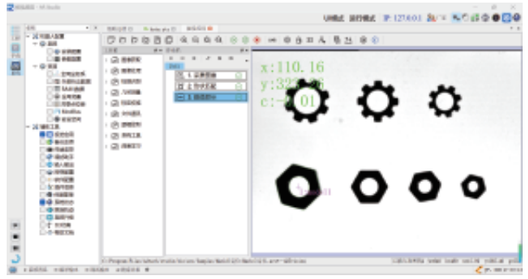
Serial No.	Function Name	Serial No.	Function Name	Serial No.	Function Name
1	Security protection	10	Drag Mode	19	Shared Point Table
2	User management	11	Magnification switching	20	Global coordinate system
3	Inching control	12	Ontology parameter configuration	21	Modbus network configuration
4	Point teaching	13	Motion parameter configuration	22	Safety space
5	Engineering management	14	I/O monitoring	23	Backup and restore
6	Program editing	15	Network configuration	24	Servo management
7	Continuous motion	16	Debugging assistant	25	Trajectory tracking
8	Coordinate transformation	17	Software configuration	26	3D simulation
9	Alarm log	18	System upgrade	27	Help document

Advanced Software Functions List

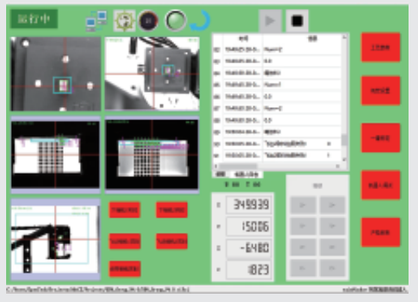
Palletizing function	Wizard-style configuration of palletizing process parameters, supporting rectangular palletizing, circular arc palletizing, multi-layer palletizing, and other processes; built-in sample programs
Drive belt function	Wizard-style configuration of dynamic grasping process parameters of conveyor belt, supporting straight conveyor belt grasping, arc conveyor belt grasping, multi-robot collaborative grasping, multi-belt grasping, high-speed rapid grasping, high-precision synchronous grasping, vision-based recognition grasping, and vision-free grasping processes; built-in sample programs
Visual function	Wizard-style configuration of robot with visual process parameters, supporting visual network parameter configuration and four types of camera mounting methods: static upright vision, static inverted vision, J2-axis camera dynamic vision, and J4-axis camera dynamic vision. Support corresponding visual calibration for different mounting methods,including 9-point and 16-point manual and automatic calibration; built-in sample programs

ARStudio x64
Robot Vision-Control Integrated Software

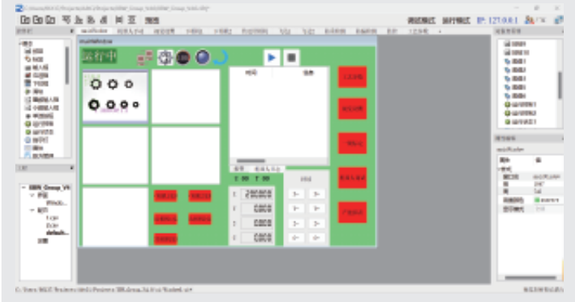
· Integrated robot upper computer and vision system with a unified design for convenient debugging
·Focusing on robot teaching-free and minimal-teaching algorithms
·One-click calibration algorithm, highly efficient and precise, requiring no disassembly of any fixtures
·UI design and recipe management for integrated robot and vision, combining flexibility with ease of use for both programming and deployment



Number of cameras supported	1~12
Communication mode	Auto-calibration, one-click calibration
Calibration mode	Auto-calibration, one-click calibration
Teaching mode	Teaching-free or minimal teaching
Camera IP configuration	Auto setting
Search area	Support setting multiple ROIs for a single template individually
One-to-many	Support simultaneous access for multiple robots
Robot control	Support
UI design	Support
Operation mode	USB interface mouse + keyboard
Operating system	win10 64-bit
Recipe management	Support



Robot + Vision unified operation interface



Robot + Vision unified UI desig

Fully automatic calibration without disassembling any fixtures

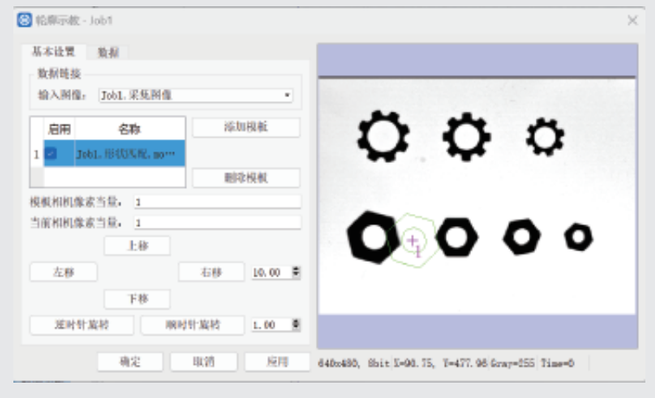


Image-based teaching, fast debugging with high precision

SCARA Robot Vision System

AVS4.0Intelligent Vision System

· Drag-and-drop programming, flexible and easy to use
· Interface configuration enabling rapid customization of production interfaces
· Feature-rich, covering full functions of positioning, measurement, detection, recognition, logic, and communication
Highly scalable, supporting rapid secondary development

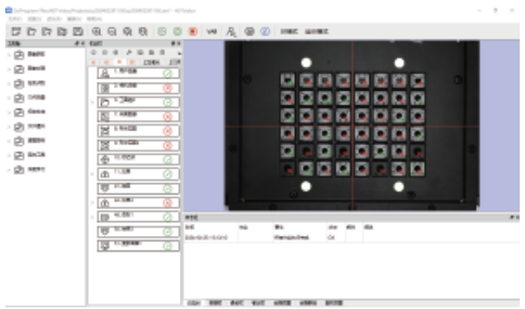
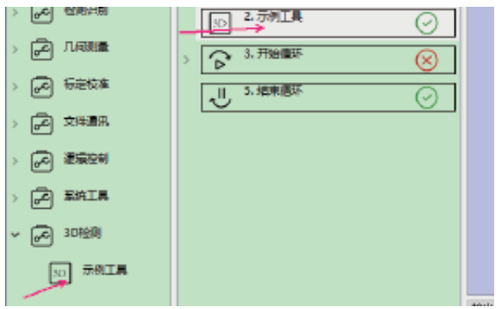


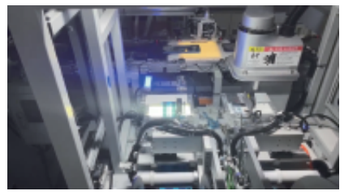
Image processing	Image stitching, image cropping, image operation, channel extraction, image capture
Preprocessing	Smoothing, Sharpening, Median, Dilation, Erosion, Opening, Closing, Brightness Adjustment, Grayscale Stretching, Gradient, Inversion, Uniformity, Rotation
Positioning	Edge Matching, Region Matching, Circle Finding, Edge Finding, Intersection Finding, Geometric Center Finding, Sorting, Auto-Calibration
Measurement	Marking point, point-to-point, point-to-line, line-to-line, line-to-circle, fitted line, fitted circle
Recognition	Barcode reading, QR code reading, character recognition, character verification, color recognition
Detection	Blob analysis, scratch detection, contour detection, edge chipping detection, roundness detection, stacking detection, sharpness detection
Communication	TCP、UDP、GPIO、Modbus
Logical control	Conditional branch, selection branch, loop branch, user variables, delay, defining array, script calculator, data link
Other	Light source control, data statistical analysis, custom data column, numerical display, text generation, text writing

Interface configuration

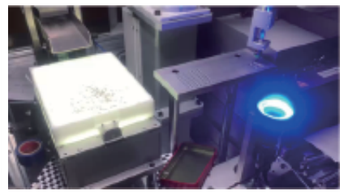
Strong scalability



Typical Application Scenarios for AVS Vision



Mobile phone accessory mounting



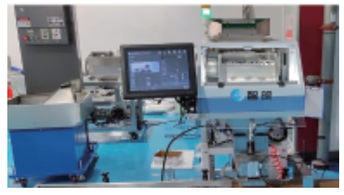
Visual guidance of flexible vibration disk

Visual guidance of loading for PCBA test loop

Visual guidance of laptop assembly

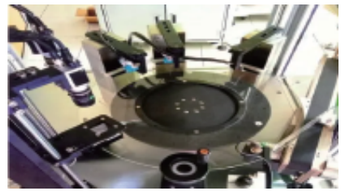
Visual guidance of telescopic box

Visual guidance of loading for PCBA test loop



Visual capsule counting and packing

Dynamic trajectory generation for underwear glue dispensing vision



Visual guidance of screwing

Vision-guided PCB board plug-in

Part installation orientation fool-proof detection

2D-based unordered parcel sorting

Vertical Articulated Robot - Industry Applications

Welding Application Cases

Automobile & Parts Industry

Welding of Automobile Bumper

Project Features:

1.Three-axis large rotation positioner, double station, high welding efficiency;
2.Two-machine collaborative welding ensures efficiency and welding deformation and overall forming.

Welding of Automobile Body In White

Project Features:

1. The four robots work together to ensure the welding synchronization and meet the production line cycle requirements;
2. Compared with the original imported brand model, 30% less manual repair welding probability.

Frame Industry

Welding of Electric Vehicle Frame

Project Features:

1. Low-splash welding reduces subsequent polishing workload;
2. Double-machine coordination+double-station, welding and feeding are carried out synchronously.

Beach Cart Welding

Project Features:

1. Pulse welding fish scale process, clear texture, deep penetration and less splash;
2. Production line welding, high output and fast speed.

Teaching Free Welding

Power Tower Industry

Project Features:

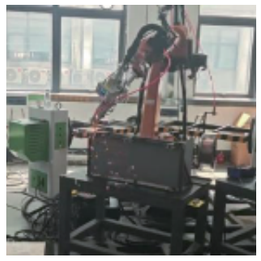
1. Parametric programming with visual camera for easier operation;
2. The welding formula library ensures the welding process and welding quality.

Ship Industry

Project Features:

1. Inverted hanging robot+teaching free welding system, automatic welding rate of 90%;
2. Production line group vertical welding, higher efficiency and easier operation.

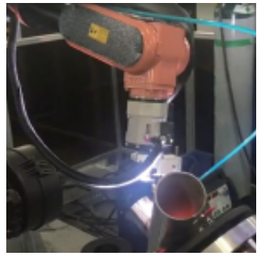
Laser Welding and Argon Arc Welding



Laser Welding

Project Features:

1. 2KW laser system, thin plate laser self-fusion welding;
2. Two-station welding for faster efficiency without sanding.



Argon Arc Welding

Project Features:

1. Equipped with EWM welding machine, it has complex argon arc processes such as arc pressure tracking, oscillation synchronization and pulse wire feeding.

Palletizing Application Cases

Textile & Chemical Fiber Industry

Compound Fertilizer — Single-line Dual-station Palletizing

Project Features:
1.Compatible with over a dozen bag sizes, allowing free switching of recipes, and featuring simple operation;
2.Palletizing speed: 800 bags/hour, 24-hour non-stop operation;
3.Dual-station reservation reduces standby time and increases production capacity by 30%;
4.Save the manpower of 4 workers and achieve quick ROI.

E-commerce Warehousing Industry

Corrugated Paper – Adaptive High-Speed Palletizing

Project Features:
1.Highly flexible: suitable for both standard-sized corrugated paper and tapered configurations;
2.More user-friendly: Simply input product dimensions to automatically generate suitable pallet patterns, and select palletizing with one click;
3.More cost-effective: replacing an average of 6-8 workers.
4.High efficiency: with an average palletizing cycle of 16 times per minute, the fastest among domestic robots.

Building Materials Industry

Bagged Putty Powder - High-Speed Palletizing

Project Features:
1.Compatible with over a dozen bag sizes, allowing free switching of recipes, and featuring simple operation;
2.Palletizing speed: 800 bags/hour, 24-hour non-stop operation;
3.Dual-station reservation reduces standby time and increases production capacity by 30%;
4.Save the manpower of 4 workers and achieve quick ROI.

New Material Industry

Pellets - Destacking

Project Features:
1.The average unpacking speed is 5-8 times/minute, leading in China;
2.Standard hand-eye calibration process, simple debugging, average 7-day landing production;
3.High-precision, box comprehensive identification error within 5mm, bag comprehensive identification error within 8mm;
4.The unpacking station and number can be allocated intelligently according to the formula.

Vertical Articulated Robot - Industry Applications

Material Handling and Loading/Unloading Application Cases

Panel Furniture Industry

Panel Furniture

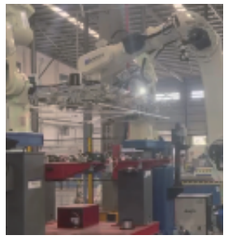
Project Features:
1.Optimize sorting cycle time to 18s to enhance efficiency;
2.Collision detection to enhance safety;
3.Built-in trachea and IO to wrist interface for easy use;
4.A 3200mm large arm span, adaptable to various working conditions.

Ceramic Tile Industry

Ceramic Tile Industry

Project Features:
1.Adaptive product and stacking patterns for easier operation;
2.Stable palletizing function, reducing the damage rate;
3.Replace manual labor, enhance efficiency, reduce costs and increase productivity;
3.Custom and personalized feature package.

Construction Industry



Automatic Welding Production Line for Scaffolding

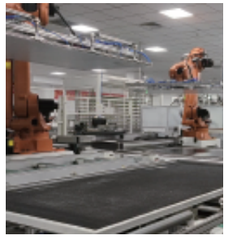
Project Features:
1.High flexibility: Compatible with various products;
2.Safer: Support multiple workspace settings to prevent collisions when working in the same space;
3.High efficiency: Reduce labor costs and workload while further enhancing product quality.

New Energy Vehicles

Leading New Energy Enterprise - Stamping

Project Features:
1.High efficiency: The stamping line operates at a 9-second cycle time, reducing labor requirements by 65%;
2.Intelligentization: Central control platform, supporting rapid switching between different products;
3.More user-friendly: Dedicated stamping package interface with graphical teaching for easier operation.

Photovoltaic Industry



Flexible Handling in Component Production Lines

Project Features:
1.The SR175 adopts the new fourth-generation integrated drive and control cabinet, saving production line space;
2.Advanced motion algorithm with end jitter suppression, addressing the challenge of component damage during handling;
3.Meet production line cycle time requirements, reduce labor by 2 workers, and reduce costs for two 6-8m conveyor chains.

Insertion/Extraction Tooling

Project Features:
1.A 1700 mm or 2000 mm arm span can be paired with different production line layout solutions;
2.With visual positioning, achieve high-speed motor insertion/extraction motion compatible with various processes such as direct insertion and butt insertion;
3.Customize pipeline I/O and corresponding cables with various fixture solutions.

Auto Parts Industry

Inspection of Automobile and Bumper Bar Products

Project Features:
1. It can replace labor, reduce cost and increase efficiency, and a single detection unit can replace 4-6 labor;
2. Based on the excellent motion algorithm of StarTimes, the robot runs stably and reliably, and is equipped with intelligent camera to perfectly realize defect detection and other functions.

Roof Gluing

Project Features:
1.Inverted 45 ° gluing, wider coverage compared with front decoration, saving space;
2. High-track accuracy meets gluing application.

Bending Application Cases

Charging Pile

TELD Charging Pile - Bending Workstation

Project Features:
1.High Flexibility: Flexible fixtures adaptable to the production of various products;
2.Mechanical sheet separation, solving the challenge of sheet separation;
3.More user-friendly: Dedicated bending function package;
4.Support higher palletizing height, improving pallet utilization efficiency.

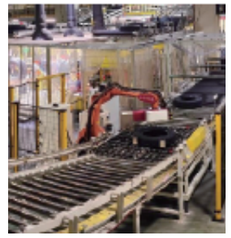
Electrical Cabinet

Cabinet Door Side Panel - Bending Workstation

Project Features:
1.Four robots collaborate to perform multi-process production, enhancing efficiency;
2.Flexible fixtures, adaptable to product size variations;
3.More user-friendly: Dedicated bending function package;
4.Support higher palletizing height, improving pallet utilization efficiency.

Other Application Cases

Rubber Tire Industry



Laser Inscription Workstation

Project Features:
1.Support DIY customization, allowing engraving of characters, numbers, logos, QR codes, etc., with neat and aesthetically pleasing results;
2.Eliminate traditional molds and reduce operational costs;
3.Connect to the factory MES system for real-time production statistics and traceable quality.

Metal Processing Industry

Tunnel Breakthrough and Polishing

Project Features:

1. Drive&control integrated control cabinet, built-in 7-axis;
2. High-precision collaboration, meeting the requirements of surface grinding scene;
3. High-rigid body, suitable for polishing conditions.

Footwear and Apparel Industry

Famous Sports Shoes - Rubber Coating

Project Features:
1.High flexibility: Free switching between various shoe types and sizes for simultaneous production;
2.More user-friendly: Utilizing the offline programming software CAM feature, it takes only 20 minutes to generate rubber coating paths, saving 60% of time compared to traditional teaching methods;
3.More economical: No paint leakage, with a 30% reduction in rubber usage when applying with robots.

Medical industry

Film Covering Process Production Line

Project Features:

1. Cost reduction and efficiency increase: 2 labor can be replaced for stable and efficient operation;
2. High-precision: suitable for laminating equipment, meeting the requirements of precise picking and discharging.

Daily Necessities

Luggage Wheel Assembly

Project Features:
1.High flexibility: Compatible with various suitcase sizes including 20-inch, 24-inch, and 28-inch;
2.Safer: Support multiple workspace settings to prevent collisions when working in the same space;
3.High efficiency: Reduce labor costs and workload while further enhancing assembly quality.

Lithium Battery Industry

Lithium Battery Handling

Project Features:

1. The new series structure of the large load robot, the whole body of the thin design, helping to reduce the floor space;
2.Interrupt the function and automatically lift to a safe distance in case of collision during operation, so as to improve the safety level.

The above are only some industry application cases for vertical articulated robots, listed in no particular order.

SCARA Robot - Industry Applications

3C — Visual Assembly

The AR5215 robot is applied in the assembly of laptop PCBs

Application accuracy: ±0.025mm

Cycle time: 12s/pcs

Equipment advantages: Overall line efficiency and cycle time improved by 25%;

Product yield increased by 2.5%.

The AR5215 robot is applied in the assembly of laptop touchpads

Application accuracy: ±0.025mm

Cycle time: 12s/pcs

Equipment advantages: Overall line efficiency and cycle time improved by 25%;

Product yield increased by 2.5%.

3C — Visual Labeling

The AR4215 robot is paired with the AVS vision system for adhesive tape application

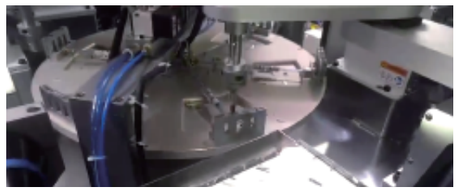
Application accuracy: ±0.03mm

Cycle time: 4s/sheet

Equipment advantages: Overall line efficiency and cycle time improved by 5%;

Product yield increased by 3%.

3C — Visual Sorting



The AR4215 robot is paired with the AVS vision system for static feeding recognition

Application accuracy: ±0.025mm

Cycle time: 1s/pcs

Equipment advantages: Cost-performance ratio improved by 10% compared with imported robot.

3C — Flying Vision

The AR6520 robot is paired with the AVS dual-vision system for flying vision assembly

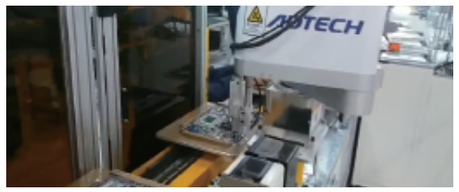
Application accuracy: ±0.04mm

Cycle time: 6~10s/set

Equipment advantages: Overall line efficiency increased by over 50%;

Production yield increased by 8%.

3C — Precision Screwdriving



The AR6520 robot is paired with an intelligent electric screwdriver for laptop screwdriving

Application accuracy: ±0.025mm

Cycle time: 1.5~2s/piece

Equipment advantages: Overall line efficiency and cycle time improved by 10%;

Product yield increased by 2%.

3C — Chip Handling

FR6115 robot for chip handling

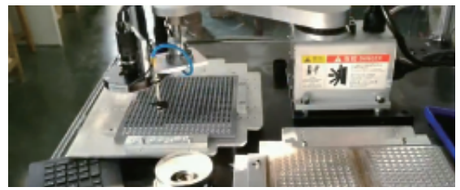
Application accuracy: ±0.025mm

Cycle time: 3s/sheet

Equipment advantages: Overall line efficiency and cycle time improved by 3%;

Product yield increased by 5%.

Optics — Lens Tray Arrangement



The AR4215 robot is paired with the AVS vision system for static feeding recognition

Application accuracy: ±0.1mm

Cycle time: 2s/sheet

Equipment advantages: Overall line efficiency increased by over 10%;

Screen Printing — High-Speed Handling

AR5215 robot for feeding and blanking for screen printing

Application accuracy: ±0.1mm

Cycle time: 2,500~2,700 films/h

Equipment advantages: Overall line efficiency and cycle time improved by 5%

Lithium Battery — Feeding for Die-Cutting Machine

The AR5215 robot is paired with a static vision system for feeding the die-cutting machine

Application accuracy: ±0.05mm

Cycle time: 1s/sheet

Equipment advantages: Overall line efficiency increased by over 50%;

Production yield increased by 8%.

Electricity — Meter labeling and barcode scanning

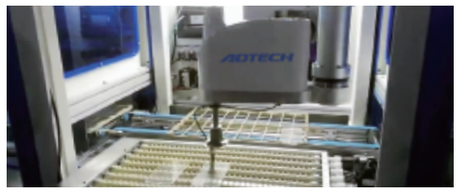
AR6520 robot for meter labeling and barcode scanning

Application accuracy: ±0.025mm

Cycle time: 45s/6 pcs

Equipment advantages: Cost-performance ratio improved by 10% compared with imported SCARA robot

Screen Printing — Handling and Palletizing



FR6115 Lifting Robot for feeding and blanking for palletizing

Application accuracy: ±0.1mm

Cycle time: 1.25~1.5s/film

Equipment advantages: Overall line efficiency and cycle time improved by 5~8%.

SCARA Robot - Industry Applications

Pharmaceuticals — Oral Liquid Packaging

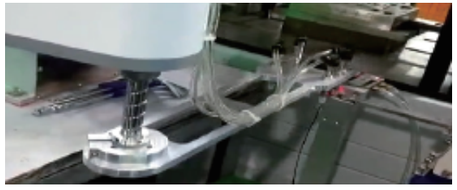
The AR4215 robot is paired with the pharmaceutical equipment for oral liquid packaging and placement

Application accuracy: ±0.05mm

Cycle time: 150 times/min

Equipment advantages: Drug packaging efficiency increased by 20%.

Hardware — Feeding and Blanking for Stamping



The AR4215 robot is paired with the stamping machine for feeding and blanking

Application accuracy: ±0.5mm

Cycle time: 1,200 films/h

Equipment advantages: Overall line efficiency and cycle time improved by 30%;

Product yield increased by 5%.

Home Appliances — Visual Screwdriving

PTR5512 Robot for visual screwdriving of home appliance products

Application accuracy: ±0.1mm

Cycle time: 2~3s/piece

Equipment advantages: Easy integration with customer MES system; overall line efficiency and cycle time improved by 10%.

Packaging - Iron Strip Lamination

AR5215 robot for dynamic iron strip lamination

Application accuracy: ±0.5mm

Cycle time: 2.9s

Equipment advantages: Overall line efficiency increased by over 25%.

Pharmaceuticals — Oral Liquid Cartoning

The AR4215 robot is paired with the packaging machine for oral liquid cartoning

Application accuracy: ±0.5mm

Cycle time: 2.5s/box

Equipment advantages: Drug packaging efficiency increased by 20%.

Hardware - Machine Tool Feeding

The AR4215 robot is paired with the AVS vision system for synchronized material feeding

Application accuracy: ±0.15mm

Cycle time: 1.5~2s/piece

Equipment advantages: Overall line efficiency increased by 10%.

Household Appliances — Visual Plug-in

The AR8520 robot is paired with the AVS vision system for visual plug-in operations

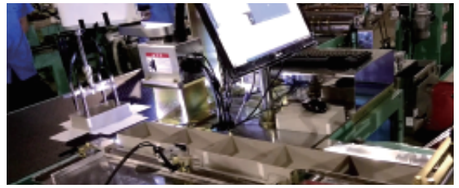
Application accuracy: ±0.05mm

Cycle time: 1s/pcs

Equipment advantages: Overall line efficiency increased by 25%-30%;

Cost-performance ratio improved by 10% compared with imported robot.

Packaging — Telescopic Box Lamination



The AR5215 robot is paired with the AVS vision system for telescopic box lamination

Application accuracy: ±0.1mm

Cycle time: 1.5~2s/piece

Equipment advantages: Overall line efficiency increased by 8%;

Yield increased by 5%.

Pharmaceuticals — Infusion Packaging Box

The FR6115 robot is paired with the infusion packaging box

Application accuracy: ±2mm

Cycle time: 3s/package

Equipment advantages: Accuracy 99%;

Daily sorting capacity up to 24,000 packages.

Hardware — Fixture Screwdriving

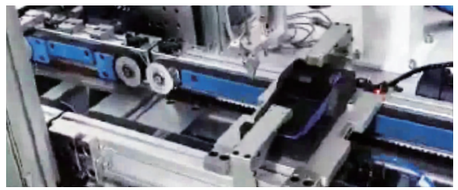
PR5216 Integrated Robot for Fixture Screwdriving and Removal

Application accuracy: ±0.1mm

Cycle time: 0.8~1s/piece

Equipment advantages: Customized robotic screwdriving services are available for enterprises.

Toys — Blow Feed Screwdriving



AR4215 robot for blow feed screwdriving

Application accuracy: ±0.1mm

Cycle time: 2.9s

Equipment advantages: Overall line efficiency and cycle time improved by 10%.

Plastics — Dynamic On-the-Fly Palletizing

AR5215 robot for dynamic on-the-fly palletizing

Application accuracy: ±0.1mm

Cycle time: 2.9s

Equipment advantages: Overall line efficiency and cycle time improved by 10%.

The above are only some SCARA robot industry application cases, listed in no particular order.

After-sales service　Full Journey Companion

Full Lifecycle Services

Deliver one-stop professional technical services encompassing installation, commissioning, production support, and handover for operation;
Ensure the equipment operates safely, stably, and efficiently throughout its entire product lifecycle.

Professional After-Sales Service Team

Nationwide service network ensures rapid response;
24-hour on-site response ensures rigorous and professional support.

Complete Training System

Well-equipped training facilities and practical teaching materials;
Shanghai Municipal Human Resources and Social Security Bureau designated training center.

Timely Supply Of Spare Parts

A fully stocked spare parts warehouse ensures worry-free operation for customers.

Partnering for a Shared Future

The above are only some of our partners, listed in no particular order.